

Volume 4, Number 7

September, 1984

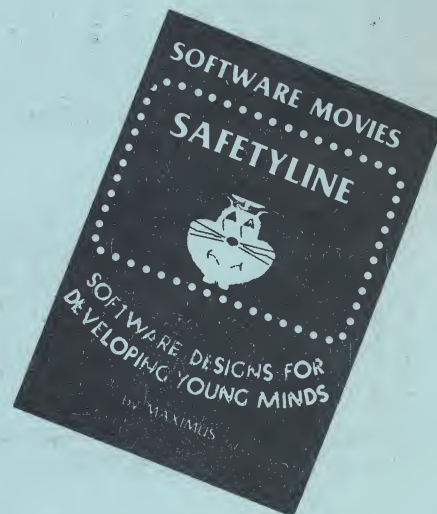
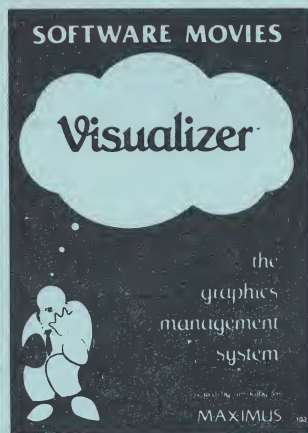
# CURRENT NOTES

*The Newsletter for*  
**ATARI Computer Enthusiasts**  
*Washington Metropolitan Area*

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NOVATARI  
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A.U.R.A.  
Atari Users Regional Association

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**EDITORIAL:**

Where has the summer gone to? It will soon be fall and we will all once more be caught up in the daily demands of the school year, the soccer/football season, the demands of our various jobs. And after the fall, winter and the Christmas season! Remember last fall? Last Christmas? ATARI had announced a whole new line of computers in the summer. But as the fall came and went -- no ATARI. Where were the new 600s and 800s? Where was the promised 1450? Was ATARI's new line of computers going to pull it through? Many of us sought out eagerly any scrap of ATARI-related news while we waited, and waited, and waited. Alas, ATARI missed the Christmas season entirely. (I should also point out that so too did most of the competition.)

This summer ATARI again announced new products -- the 7800 game machine, a controller you worked with your head, and, of course, promises of the mysterious 1450 just around the corner. But before the summer ended, the good ship ATARI found a new captain at the helm and a new course which left most ATARI employees behind in its wake.

I don't think this fall/winter will be a repeat of last year. The new ATARI, Inc. will not miss the Christmas season. In spite of the uncertainty of the moment, hang in there. The 800XL will be a BEST BUY. An entirely new generation of ATARI computer will arrive and will represent the great leap forward that the 1200XL never was. Watch these pages this fall as we report on the evolution of ATARI, Inc.

*Joe Waters*

**CONTENTS**

Vol. 4, No. 7  
September, 1984

Club News

NOVATARI.....	4
AURA.....	6
DC GROUP.....	8
Capital ATR Peripheral Micro Users.....	9

Columns

SECRET SUNNYVALE CORRESPONDENT (???).....	7
ATARI SCUTTLEBITS (B. Kelly).....	10
BATTLE BYTES (M. E. Brooks).....	12
MUSICAL NOTES (J. Gerber).....	14

Product Reviews

ACTION! Programmer's Aid (Stevenson).....	17
XBASIC (J. Gerber).....	20
NECROMANCER (M. Benson).....	21
I SPEAK BASIC TO MY ATARI (M. Vallery)...	21

Articles

COMPCON FALL '84.....	5
Solution to ULYSSES AND THE GOLDEN FLEECE	9
Polar Coordinates (C. Stebner).....	23
DOS Comparison (S. Stubeck).....	24
Lights, Camera, ACTION! (D. Lutz).....	25
CLASSIFIED ADS.....	26
BECOMING A MEMBER.....	27

**Current Notes**

Current Notes is published monthly (excl. January and August) free of charge by the National Capital Atari Users Group, Inc., 1800 M Street, Washington, D.C., 20036, for its members and for the members of NOVATARI (Northern Virginia Atari Users Group) and AURA (Atari Regional Association of Maryland). Application to mail at second-class postage rates is pending at Rockville, Md. POSTMASTER: Send address changes to Editor, Current Notes, 122 N. Johnson Rd., Sterling, VA. 22170.

The participating ATARI User Groups are not affiliated in any way with ATARI, INC. Opinions expressed in this publication are those of the individual authors and do not necessarily represent or reflect the opinions of any of the user groups. Membership dues for each group are \$15.00 a year, which includes a subscription to Current Notes. (See the last page for further information on club memberships.) Persons living outside the metropolitan Washington DC area may subscribe directly to Current Notes for \$12.00 per year. Current Notes is available to other Atari User Groups on an exchange basis. Material in this newsletter may be reprinted provided Current Notes and the author, if applicable, are cited.

The editor of Current Notes is Joe Waters, 122 N. Johnson Rd., Sterling, VA. 22170, (703) 430-1215. News items, short articles, original programs, product reviews, classified ads (free to members), and any other material of interest to the membership are eagerly solicited. Commercial advertising rates: full page, \$40; half page, \$25; quarter page, \$15; 1/6 page, \$10. Discounts are available for multiple ads. Submit photo-ready copy to the editor. Deadline date for both articles and advertisements is the 12th day of the preceeding month.



## NOVATARI: Northern Virginia Atari Users Group Greenbriar Community Center -- Chantilly, Virginia

President..... Joe Waters..... 430-1215  
 Vice President. Steve Steinberg 435-2962  
 Treasurer..... Curtis Sandler. 734-9533  
 Secretary..... Jim Stevenson.. 378-4093  
 Program Ch..... Gene Schimpf... 378-7807  
 Membership Ch.. Earl Lilley.... 281-9017  
 Education Ch... Marty Vallery.. 425-6832  
 Disk Librarian M. Evan Brooks. 354-4482

Novatari Meetings are on the 2nd Sunday of each month in the Greenbriar Community Center on 4615 Stringfellow Road in Chantilly, Virginia. Stringfellow Road, (Route 645), runs south from US 50 a little more than two miles west of the Fair Oaks Shopping Mall (I-66 and 50). The Greenbriar Community Center is on the left-hand side of Stringfellow Road, 1.4 miles south of 50. There is a small parking lot in front and a larger one just north of the center. The meeting room is available from 5-9 PM. A BASIC tutorial is offered starting at 6:00. The business meeting starts at 7:00 and is followed by software demonstrations. The formal presentation, highlighting a specific software or hardware product, begins at about 7:30. Door prizes are offered each month.

### Novatari Minutes: July 8

By Jim Stevenson

Potpourri: Joe Waters continued his BASIC Tutorial prior to the main meeting. Jay Gerber brought the DC Disk Library to sell. For the monthly door prizes, Palmer Pyle won A.E. in the members category and Mat Lewis won Matchboxes in the attendees category. Rob Stewart of Future Tech donated a "Notebook Disk Storage File" as a door prize which was won by Marvin Bleiberg.

Jay Gerber gave an impromptu review of Ken Collier's MUSIC SYNTHESIZER from ANALOG which can run ATARI MUSIC COMPOSER pieces after altering the wave envelope (attack, sustain, decay). He also gave a quick demo of the MUSIC CONSTRUCTION SET which showed it to be the easiest of all the music programs to use and also provided excellent music. It did only have three voices (necessary for extended range), no triplets, no repeats (!) and a surprising limit to the length of pieces it could play.

Program: Rob Stewart of Future Tech presented the capabilities of the ATR 8000 to a very interested

audience. He quickly summarized the main points, which are probably well-known to most Atarians (see last month's Current Notes or Dave and Sandy Small's review in the December, 1983 BYTE). What was of greatest help was Rob's clear replies to numerous questions. For example, can the 64K accessed by the Z80 chip also be accessed by ATARI's 6502? Only as a printer buffer, not as a virtual disk. Even a 128K Ramdisk can only be accessed by the Z80. The ATARI 810 (or any other ATARI-compatible drives) can be connected to the ATR 8000 but cannot be accessed by the Z80. Even though the Z80 can access its own drives quickly, the ATARI drives connected to the ATR communicate with the ATARI at the same speed (because of the serial interface).

A new MS-DOS is coming out that will correct all earlier problems when the ATR 8000 is expanded with an 8088 add-on. Efforts are on-going to attach hard disks to the ATR (an unadvertised boon, if successful). The maker of the ATR 8000, SWP, offers a list of which CP/M programs will and will not run on the ATR 8000.

Thus Rob was able to communicate valuable and competent information that had not been entirely evident from other sources. He offered an office number at Future Tech (703) 448-1448 for anyone interested in obtaining further information on the ATR 8000. (See also coverage of the Capital Area ATR 8000 CPM group given elsewhere in Current Notes.)

### Novatari Minutes: August 12

By Joe Waters

Potpourri: Jay Gerber taught the BASIC Tutorial as he introduced his audience to the intricacies of the SOUND command. To be continued in September. Mike Focke won FROGGER and Dean Miller DIMENSION X. Membership cards, a questionnaire, and the membership roster were distributed. Those who did not attend will receive theirs in the mail. Please fill out questionnaire by September meeting.

Program: The entire program was devoted to game demonstrations. SYNAPSE had provided several demonstration diskettes that included entertaining looks at DIMENSION X, ALLEY CAT, NEW YORK CITY: THE BIG APPLE, ENCOUNTER, RAINBOW WALKER, and QUASIMODO. ARTWORK provided STRIP POKER. Joe Waters took the demo of this product far enough to illustrate the excellent quality of POKER in the game. Jay Gerber closed out the demonstrations by illustrating



## NOVATARI: Northern Virginia Atari Users Group Greenbriar Community Center -- Chantilly, Virginia

many of the screens in JUMPMAN JR. and the delightful complexity of SEVEN CITIES OF GOLD.

### President's Report

By Joe Waters

I'm pleased to announce the addition of three new volunteers to our NOVATARI organization:

Membership Chairman: Earl Lilley has accepted the post of Membership Chairman. Earl had our membership cards made and will be taking care of the recently distributed membership questionnaire. Do you have a friend who has an ATARI and isn't a member of the club? Get them to join! Fill out an application and send it to Earl or sign-up at the next meeting.

Program Chairman: Gene Schimpf is our new Program Chairman. Gene will be looking out for the quality both of our programs and our meeting place. Speaking of programs, we have an excellent line up for the fall. See the FALL SCHEDULE below.

Education Chairman: Marty Vallery is our new Education Chairman. Many of our members are relatively new to the ATARI. Marty will be looking at how the club can help with the training process for both our new members as well as other elements in the community such as the school systems. If you have any ideas, I'm sure she will be delighted to talk to you.

Club Library. You should be aware that Evan Brooks, our Disk Librarian, regularly has the ANALOG disks available at our meetings. If you purchase or subscribe to ANALOG, you need not type in all those programs. For a mere \$3 you can purchase the disk corresponding to any particular issue you are interested in. ANTIC has also recently announced a disk version and Evan is looking into acquiring those disks as well.

We hope to introduce some new library disks in September. With the new disks there will be a new price (\$4), and a new policy (you don't have to buy them). I am right now looking into making the disks available at several retail outlets. Members would be able to go to the location nearest their house and simply check-out any disks they are interested in -- just like a regular library. (Hence, the membership cards.) You can copy any programs you want before you return the disk. Of course, if you prefer to

simply buy the disk outright at the meeting, you would still be able to do so. Complete details will be announced at the September meeting.

Regional Meetings? I do not want to prejudge the results of our membership survey, but here is an idea you may want to think about. The Tutorials at our meetings our good. However, time for play and chit-chat is also good. Unfortunately, it is difficult to do both simultaneously. In addition, our membership is scattered throughout Northern Virginia and Greenbriar is, obviously, not equally convenient to all. Therefore, how about smaller regional meetings in between the normal monthly meeting? The smaller meetings could easily handle tutorials, or get-togethers, or special interest groups. Anyone interested in pursuing this idea?

### NOVATARI FALL SCHEDULE:

SEPTEMBER 9: SynFile+, SynCalc, and SynTrend -- The latest in home productivity tools for the ATARI.

OCTOBER 14: Visualizer, Koalapid, and other Graphics Tools for the ATARI.

NOVEMBER 11: Music Construction Set, Atari Music Composer and other Musical Tools for the ATARI.

DECEMBER 9: This topic may be changed on the basis of our survey, but for the moment we are thinking about TELECOMMUNICATIONS.

### COMPCON FALL '84

The Institute of Electrical and Electronics Engineers, (IEEE) Computer Society is announcing the "Small Computer (R)Evolution," at COMPCON FALL '84, to be held at the Hyatt Regency Crystal City, Arlington, Virginia from September 16-20.

To help launch the conference, a microcomputer swap meet is scheduled for Sunday, September 16. Participants from various user groups in the Washington DC area, including the ATARI User Groups, will be on hand. This is an excellent chance to buy, swap, or sell hardware or software. Admission is \$1.00 (which also gets you a discount coupon to COMPCON). For further information contact Jim Stevenson (703) 378-4093.



**A.U.R.A.: Atari Users' Regional Association**  
**Longbranch Public Library -- Takoma Park, Maryland**

President..... Bruce McLendon 587-7890  
 Vice President. Dave Haseman.. 681-5776  
 Treasurer..... David Curry... 384-5514  
 Rec. Secretary. R. Follender.. 530-0243  
 Membership..... Richard Stoll. 946-8435

AURA Meetings are held on the 1st Wednesday of every month at 7:00 pm in Room One of the Long Branch Public Library on Garland Avenue in East Silver Spring. Take the Beltway (I-495) to Exit 29-B, South University Blvd. East, (Route 193). Follow University Blvd. East to the second light (Piney Branch Road), turn right on Piney Branch Road, continue to the second light (Arliss Street), turn right on Arliss past the apartments to Garland Avenue, turn right on Garland. The Long Branch Library is on the corner. Park in the library's lot.

**AURA Minutes: July 3**

By Rochelle Follender

Old Business: Discussion continued from last month concerning status of AURA as a club, non profit organization or incorporated organization. A final decision has not been reached. The July Current Notes are not out yet and a fear that they were mailed by first class mail is of concern to the club -- especially to the treasury. ACA is now at a new location at the corner of Shady Grove Road and Highway 355 (Rockville Pike) with a new store front and easy access. The new bulletin board number is 948-0792 and is available 24 hours a day. Sold 12 disks of #35 and have available #36 which has a great VT-100 emulator with a software-driven 80 column screen. Also on #36: a revised cannon dual game, a planet defense game, and a utility. Documentation is now included on disks.

New Business and Discussions: Discussion started on the sale of ATARI by Warner. Looks good for ATARI owners. Also discussed a 32 bit machine by ATARI. New ATARI number is (408) 745-4841. Discussed ratings of software in the TV guide. SynCalc series of integrated software has been seen for \$300. Addressable to ATARIWRITER. A "back chair" was demonstrated as a way to sit long hours at your at computer without back strain. Adjustable type may be necessary for some. The consensus has been that the ATARI pad has it over the KOALA pad. More features and sturdier surface for only a few dollars more. Datasoft has issued LETTER WIZARD

which is a better clone of ATARIWRITER and has a wide range of printer support for only \$40. Is compatible with ATARIWRITER. It was mentioned that the new LJK "Perfect" series are now issued in ATARI DOS 80-column double density.

**AURA Minutes: August 1**

By Rochelle Follender

Discussion: News and speculation about ATARI continues. Company is down to 400 employees from 20,000. 800 number no longer in effect but can call (408) 745-4841. 16 and 32 bit machines may be in the offing and the 800XL may be down to \$169 by September. Submit articles to Current Notes by the 12th of the preceding month. If you want to review software or know of a store willing to distribute the newsletter, contact Joe Waters. The BBS is not in operation. An almost full-time SYSOP is needed. If you live in the Gaithersburg area and are interested, call ACA (948-0256).

Presentations: Mike Kerwin told about Centurian Enterprises, a company that bought out ATARI stock and is selling everything at good discounts. Marshall described the VT100 program on club disk #36 which makes your system an 80-column terminal when hooked up to a mainframe. Bob described the Advanced Music System files on club disks AMS 1-5. Bruce described a fix for older TRAK drives which enables you to double-side disks.

**President's Report**

By Bruce McLendon

COMPUTERKIDS, INC. This new organization in Rockville, MD has offered to support the ATARI interests of the area. Here's a quote from their brochure: "To provide a unique educational environment where young people and their families can explore and interact with a variety of computers and software". We are planning to have them speak at the October meeting. Their class schedule includes sessions for ages 3 to 6, 7 to 10, 11 & up and adults. Everything from getting acquainted with computers, on up to programming in BASIC & LOGO, plus word processing. We will have some literature at the September meeting. For more information, please contact: (and mention you read this in CN) ComputerKids,



**A.U.R.A.: Atari Users' Regional Association**  
**Longbranch Public Library -- Takoma Park, Maryland**

Inc, 833 D Rockville Pike, Wintergreen Plaza,  
 Rockville, MD 20852 (301) 279-5556.

**AURA HARDWARE NEWS.** For those of you with early AT-D2 TRAK drives, there is now a fix for using the back side of your disk. You have an older drive if the motor keeps spinning when you flip the disk over. Also, you should have a painted, semi-circular, double-pointed arrow next to the locking lever on the front panel. If you can or know someone who can do the work, it'll take about 2 minutes! (AFTER you've got the drive apart!) Here's the steps:

- 1) Take the drive out of its case: 4 screws for the shell, 4 screws for the chassis, and 2 screws for the front panel. Note that the front panel will STILL be connected to the main chassis by a ribbon cable. BE CAREFUL!
- 2) Turn the drive over so that you are looking at the bottom with the power supply connector in the upper corner (the front/door side of the chassis should be on your right).
- 3) Just below this connector is a short silver wire originating between the 'S1 S2' lettering. This wire should connect to a PICTURE of a diode. It is less than 1/2 inch long, but is easily spotted. Remember this as wire 'A' for step 5 below.
- 4) Locate the letters 'PM' just in front of the ONLY chip in front of the power supply connector. The little black cap is a jumper that connects 'P' to 'M'. Pull this off thus exposing two vertical pins. (Later, you may replace the cap at a 90-degree angle on the 'P' pin.)
- 5) Connect a short piece of wire from the pin marked 'M' to wire 'A' about midway between the S1-S2 and the picture of the diode. Now, cut wire 'A' such that your NEW wire connects pin 'M' to the S1-S2 junction. THAT'S IT! Now, just put your drive back together!

**AURA AGENDA - SEPTEMBER 1984.** The next meeting will be Wednesday, the 5th at 7:30 pm at the Long Branch Public Library in meeting room #1, upstairs. As we're trying to coordinate our plans with the newsletter publication, we do not have all slots filled

for September and October. Here's what is scheduled to be presented:

- 1) Demo of the new TAC-2 joystick. Far superior in feel and control!
- 2) The public-domain Advanced Music System player. This program will play both AMS-1 and AMS-2 files. Unfortunately, due to copyright no doubt, the keyboard display is not shown, but the music is still GREAT!
- 3) Demo of CRYPTO. A very much expanded version of the K-Byter word game involving deciphering of famous phrases. In fact, Disk 37 has new word games and related material to be shown and discussed.
- 4) AURA Library disks 35,36,37 are now available along with AMS disks 1-5.
- 5) New product demos from the audience and FACE (Frederick Atari Computer Enthusiasts)

=====

**SECRET SUNNYVALE  
CORRESPONDENT**

=====

**CN Reporter:** Hey! Haven't heard from you in a while. What's going on?

**SSC:** ATARI now stands about 400 people strong and the new management will put us back on target. The ATARI product line is still strong and has NOT been dropped by the new owners. New superior games on cartridge and disk will be released soon. Also, business software is on the way and should be out by the last quarter. Have you see the 'SYN-CALC', etc from SYNAPSE? Most of this series of products should be out on your dealers floors now!

**CN R:** Can you be more specific about these new products?

**SSC:** By the next newsletter I should be able to reveal some details. There are so many fascinating projects here that it would only be fair to tell you what to expect. Let me just say that you WON'T be disappointed and the announcements will ONLY be made when the product is truly available.



**Washington DC Atari Users Group**  
1800 G. Street NW, Washington, DC

**Club Officers**

President.....Frank Huband.....(703) 527-4770  
 Treasurer.....Allen H. Lerman....(301) 460-0289  
 Membership.....Gerald Whitmore....(301) 459-6164  
 Program Chairman.....Art Corte.....(703) 437-7860  
 V Prog Chairman.....Jia Campbell.....(703) 425-1440  
 Disk Librarian.....Jay Gerber.....(703) 525-9715  
 Tape Librarian.....Bruce Ingalls.....(703) 430-3287  
 ANALOG Disk.....Jay Gerber.....(703) 525-9715

**DC Meetings**

are held on the 3rd Tuesday of every month in Room 543 of the National Science Foundation offices, 1800 G. Street NW, Washington, DC. The closest subway stop is Farragut West, on the Blue and Orange lines. Take the 18th Street exit, and walk south (against the flow of traffic) down 18th Street for

three blocks to G street. The building, on the corner of 18th and G, can be identified by a sign for the Madison National Bank on the corner. Parking is available in the building for a fee. The front entrance is on the west side of 18th street, between F and G. Meetings begin at 5:30 pm and usually last until 8 or 9.

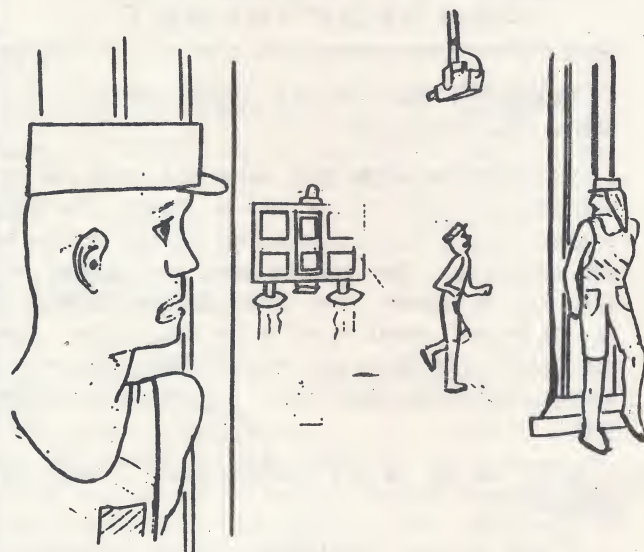
**Coming Events**

**September 18:** Joe Waters will present the new SynFile+ database management program and the SynCalc electronic spreadsheet developed for ATARI by SYNAPSE.

**ARMUDIC BBS**

ARMUDIC BBS..... (703) 425-6698  
 SYSOP (John Brophy).... (703) 425-7169  
 PASSWORDS (Joe Waters). (703) 430-1215

## Big Brother's Newspeak Machine™



They were deep in the bowels of the Ministry of Truth, but one of the unblinking surveillance cameras had spotted a flash of telltale blue denim. His companions watched helplessly as the cage swooped down upon his paralyzed form. If the remaining rebels could not pass the authorization checks and the many cameras that still lay between them and the Central Control area, then Big Brother would keep his unchallenged command of the English language, and with it, control over the thoughts of all English speaking people.

\*\*\*\*\*

NEWSPEAK is a vocabulary building game for one player, age eight to twelve. A unique blend of joystick action and education NEWSPEAK sends the student threading through alternating mazes and word-origin puzzles. NEWSPEAK requires an ATARI® computer with at least 24K of memory, an 810 Disk Drive, a BASIC language cartridge, and a joystick controller.

**SPECIAL FEATURES:** The instruction booklet includes a bibliography of sources for thousands of additional words.

5 1/4 inch Floppy Disk \$19.00 each (special for 1984)  
 Special rates available for qualifying school systems.

Find me at DCAUG meetings, PHONE (703) 521-7259, or write to

Bennett Rutledge, CDP  
 327 South Wayne Street  
 Arlington, Virginia 22204

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## Capital ATR Peripheral Micro-Users

By John Lauer

The ATR-8000 CPM group met on 24 July 1984, at the public library in Oxon Hill, Md. Introduction of the first five CPM library disks occurred with a very positive response resulting in demand exceeding supply. Bob Kelly has prepared these disks for the group and currently is working on completing three or four more disks containing CP/M utilities. These disks should be available at the September meeting. It is just about essential to have many of the programs on these disks if you intend to work extensively with CP/M. The range and scope of the utilities offered on these disks make CP/M computing 100 percent easier. The difficulties encountered without these utilities can be illustrated by the fact that a number of CP/M files, of a similar nature found on BBS's, are combined to form libraries. These files can only be used once they have been broken out of the compressed and squeezed form that they were downloaded in. Library disk #1 takes care of this problem.

Craig Smith gave those attending the last meeting information that is relevant to all ATR-8000 owners whether members or not. He introduced and discussed the new BIOS system that SWP recently released. Craig covered first the new utility CONFIG.COM. This program allows you to patch the CP/M BIOS in order to meet the specific equipment spec's of your system. It also allows you to select an executable command that will occur when CP/M is booted. This procedure can be compared to the results obtained when you use AUTO-RUN.SYS under the Atari system. Additionally, the BIOS now supports four (4) double-sided disk drives where memory restrictions prevented this under the original version. Another addition can be found under DISK-DEF.COM where several double-sided disk formats have been added. All this can be yours for \$25 and your old CP/M disk. SWP Technical Support provides this to all registered ATR 8000 owners - give them a call for further info (817-861-0421).

In September, Mike Abramowitz will discuss and demonstrate the Sanyo CR6500 Monitor (sold by SEARS) with composite video and RGB output. In addition, Frank Jones will provide a tutorial on the CP/M disk utility DU-77. This utility permits sector examination, repair, and other disk maintenance functions.

The next meeting is scheduled for 28 September 1984 at 6:30 PM (4th Tuesday of month). The meeting will be

held at the Public Library in Oxon Hill, Md. The site is located near the Woodrow Wilson Bridge just off the beltway. Take the beltway to Maryland exit #4 East, (St. Barnabas Road), St. Barnabas merges into Oxon Hill Rd.; proceed 1/4 mile and the library will be on your left. The meeting will be held in the Author Room. (Library phone # is 301-839-2400)

## ADVENTURER'S ANSWERS

If you are driven by the quest for truth and answers, you probably stay up all night working on adventures. If you want to solve them on your own, do not read this column. If, however, you are being driven insane by these nagging mysteries, then be my guest and read on.

### ULYSSES AND THE GOLDEN FLEECE The Solution

Follow this path to success: (N=North, S=South, E=East, W=West)

Go E, S, S, E, E, N, Get Chest, Go S, W, W, N, N, W, S, W, W, W, Talk Guard, Yes, Bow, Go E, E, N, Drop Chest, Buy Wax, Buy Wine, Buy Sword, Buy Wood, Buy Leather, Buy Flint, Buy Rope, Go N, Get Coin, Go N, Hire Sailors, Go E, Get Bottle, Get Note, Give Coin, Yes, Go S, Get Chest, Go N, E, Go Ship, Ocean, N, W, Get Bag, Go E, S, E, Get Condor, Go E, N, N, E, S, W, W, S, W, S, E, N, E, N, E, Go Island, E, S, S, Get Bridle, Go E, S, Look Hole, Get Dust, Go N, W, N, N, N, N, N, Up, N, E, N, Get Potion, Go S, N, Down, S, S, E, E, S, E, Tie Leather, To Leather, Throw Leather, Cross Fjord, Go N, E, N, Give Gems, Go N, E, E, N, Pluck Bird, Make Wings, With Feathers, and Wax, Fly Canyon, Get Rock, Reins, Go Down, W, W, S, Throw Dust, Go S, E, E, Pour Wine, On Shelf, Go Fire, E Hole, S, S, S, W, N, Ship, N, N, N, W, N, N, Pour Potion, In Ocean, Go N, E, E, N, Hold Wax, Plug Ears, Tie Self, To Mast, Yes, Go E, W, N, N, Island, W, W, N, Read Carving, Go E, E, N, N, W, N, Say Sevenses, Open Cage, Get Mallet, Go E, E, S, E, N, Give Wine, Grapes, Get Trunk, Sharpen Trunk, Wait for the CYCLOPS to return, Make Wine, Give Wine, Stab CYCLOPS, In Eye, Kill Sheep, Make Fire, Roast Sheep, Eat Sheep, Go S, S, E, N, Say ECELF, Look Chest, Get Sword, Kill Skeletons, With Sword, Go E, N, N, Say SUPPELTUEL, Go Cliff, Give Bridle, Reins, Break Chain, With Mallet, Ride Pegasus, Get Fleece, Fly Home, Go W, Yes, Bow, Fleece

Congratulations!!!! You have just solved Ulysses and the Golden Fleece.

[Reprinted from Computer Squad News, June 1984.]



## ATARI SCUTTLEBITS

By Bob Kelly

**POST-MORTEM:** As everyone knows by now, Warner Communications has sold Atari to Tramiel Technologies. Tramiel Technologies is, in reality, Jack Tramiel, the former head honcho of Commodore International Ltd. To say I was glad to see Warner relinquish operating control of Atari is generally an accurate statement. To illustrate briefly why there are some mixed feelings on my part, Warner did have a corporate concept of customer support. All of these customer services have since been shut down by Tramiel. While the present financial situation may demand such action, anyone who followed Tramiel's career at Commodore realizes that these services are not likely to reappear at the new Atari Corporation anytime soon -- if ever. Warner could never give up on the idea that the production of games would be their savior. At the end, the planned 1450 computer was too late to stem the rising tide of red ink. The 1450 was a promising concept but it was handled poorly from the early developmental stage. To compound their errors, Atari's marketing strategy was to first promote the 7800 video game machine and then the new computer. This strategy was adopted despite the advice of Wall Street and Atari Users' Groups around the nation. As they say, "You live by the sword -- die by the sword". Warner's stewardship in the end died an ignominious death since the terms of the sale to Tramiel were extremely unfavorable to Warner (some reports have called it a give-away). Tramiel has already indicated that he primarily intends to build computers for the home and school market. As an initial market strategy, this clearly is a welcome relief to all.

According to most newspapers and magazines, Tramiel inherits an Atari with few positive aspects to the corporation. The most frequently cited plus is the Atari name itself. This recognition factor of the Atari name is primarily based upon the 16 million owners of Atari machines and the quality of the product that was produced (as well as the service network). Tramiel in one of his few public utterances indicated his awareness of the importance of the Atari name. Yet, ironically, one of his first actions, as noted above, was to diminish customer support. The second positive aspect is the products developed at the Atari Research Labs. Atari, under Warner management, never took advantage of these research developments. Tramiel, who understands the value of R & D, will not permit this corporate failure to be repeated. Tramiel is a marketing expert,

as was the old president of Atari - Morgan. However, the significant difference is that Tramiel knows the computer industry and consumer preferences.

Tramiel has installed his three sons in key positions. Number 1 son is in charge of collecting unpaid debts, number 2 son is President of Atari, and number 3 son is in charge of software development. No, this is not a script for an old Charlie Chan movie. How about Charlie Tram? I hope he doesn't name the new computers after his sons. How does "the Leonard" sound? Back to the script.

In sum, I believe Jack Tramiel in charge of Atari is positive. A year from now a new computer will probably be selling "like hot cakes on a cold morning". Tramiel/Atari will probably make money and survive. The only negative aspect to this scenario has nothing to do with the technical merits of any new computer. Rather, it relates to the existing customer base. I am not so sure that those user groups who have consistently supported Atari over the past two years of hardship will be ready to jump on the bandwagon. For this to happen, Tramiel will have to reach out and ask for your support and/or advice. This does not appear to be in Mr. Tramiel's constitutional make-up. I could be wrong -- I hope so. Tramiel should, but probably does not, realize that after so many false starts on a new Atari computer, there exists a cynicism in the trenches which demands some stroking. In other words, the hard-core customer base is withered at the edges and needs attention -- despite all those positive press reports on the recognition factor.

**A PRICE FORECAST:** Now, some serious business since it may affect your wallet. A Christmas price forecast for the 800XL. Currently, the local sale price for an 800XL is around \$199, down from the mid-winter price of roughly \$275. I have gathered some inside information from my Atari mole "deep disk". My forecast is based upon the following considerations:

1. Tramiel, at the time of his takeover of Atari, bought an inventory of 100,000 XL's at a price of roughly \$80 each.
2. An aggressive cost cutting effort has been undertaken by Tramiel which will maintain the lowest possible cost per unit of output. However, per unit cost, according to most reports, still remain higher than the Commodore 64. Atari needs to reduce costs by roughly 25% below what they were under Warner's stewardship to win any full blown price war.



3. As luck would have it, Commodore, the major competitor, has management problems. Atari has already matched the price of the 64. Rather oddly, Commodore is acting like a price taker rather than a price setter. In simple terms, they are waiting for Tramiel's next move, a defensive position. This is not aggressive management.

4. Tramiel needs to improve cash flow to generate the money for that next computer. While doing so, he's out to improve Atari's market share.

Thus, I foresee further reductions in the 800XL. I expect that by September the 800XL will be selectively on sale for roughly \$150 and by November in the neighborhood of \$120. The basic point of all this is that prices will fall rather significantly as competition intensifies. As for the bad news question, will the 800XL be compatible with the next generation of Atari computers? No one knows the answer to this. Personally, I believe the probability is less than 50/50 that it will. However, to judge the pro's and con's for yourself, read the excellent InfoWorld article of 6 August 1984 which details the technical and marketing

options open to Atari. Once finished with this article, if further information on the technical merits of the 65816 chip is desired, read the August issue of BYTE. Recommendation... if you have an old 800 computer with lots of software, it may be the time to pick up that back-up machine always dreamed of longingly.

Update: Since my column in July when I reviewed eight Atari-related magazines, two have ceased publication, Personal Software and the Atari Connection. A substantial portion of the content of Personal Software will be included in Personal Computing Plus which is published by the same company (Hayden). The Atari Connection is a casualty of Tramiel's cost-cutting. As I pointed out, several features of this magazine impressed me. It is a loss....goodbye, Dr. Wacko.

See you all next month -- what's that, a telegram from Atari.....!!

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## Battle Bytes

### The War at Sea -- Part I

By M. Evan Brooks

**Broadsides** is a naval wargame by SSI (Strategic Simulations, Inc.). This company has rapidly become the best known and respected translator of wargames into electronic format. The game itself covers single ship-to-ship duels during the Napoleonic era. If you have ever read about Horatio Hornblower or Richard Bolitho, then **Broadsides** should be highly recommended.

Even more important, if you have never read anything about this period in history, the game is still engrossing and fun. An entire scenario can be played in approximately ten (10) minutes.

The simulation appears to have a familial relationship with **Wooden Ships & Iron Men** (by Avalon Hill). This is a board-type wargame which covers the same period, except it permits multi-ship engagements as well. **Broadsides** is limited to single ship duels (alas, no Trafalgar), but given the parameters of consideration, the player will be kept busy.

Although the game comes with selected engagements pre-established, the gamer may define his own battles in any fashion he chooses. Find the going too tough? Then adjust to a 120-gun ship-of-the-line with an elite crew against the computer's 10-gun sloop run by recently pressed landlubbers. The point is that you set the standards. The problem is that the instructions are not clear for the beginner, and some time will have to be spent in an experimentation mode in order to best determine the most efficient way of designing your own scenarios.

An initial view of the playing field may be intimidating. The left three-fourths constitutes the ships in their naval environment. Any maneuvers will appear in this sphere. The remaining right portion is in effect a split-screen, with the player's ship on top and the computer's (or second player's) ship on bottom. All relevant details are given here concerning the condition of one's vessel -- hull or rigging (destruction of the former causes the ship to sink, while destruction of the latter causes lack of mobility), speed, direction, crew, etc.

Orders to the ship's crew are inputted by joystick. Elegantly simple, the player must remember that when the crew responds "Aye, aye sir" that the response is not instantaneous. It takes time to slew a sailing vessel about or to reload the guns.

Speaking of guns, ammunition comes in different types: solid shot (all purpose), grape (close-range, effective against crew only), and chain (in effect, two balls linked by a chain; while doing little damage to a hull, it devastates sailing masts). This writer must admit to a certain preference for chain; after sufficient hits, entire masts fall down, and on the main screen, the opponent's ship will cease movement. At that point, there is a certain joy to leisurely sailing up to an opponent, "crossing the T", and blowing him out of the water. But each ammunition type must be utilized in its proper way. Stick to solid shot until you gain a basic familiarity with the game system. Solid shot is all purpose and cannot be ineffective (as can the others at improper ranges).

Sailing itself is a major portion of the simulation. Sails may be set at battle sail and full sail (the latter crowds on sail, and can be much faster in speed). However, the disadvantage to full sail is that any damage to the sails/rigging will incur twice the damage as would occur to battle sail. My recommendation would be to use full sail advisedly, if at all. Given the time delay to drop from full to battle sail, by the time the novice realizes his plight, his masts may be dropping on his deck. There is a weakness in sailing, but for most players, it is negligible in impact. In making a rapid turn, nautically, one can come about (moving the bow through the wind) or wear (moving the stern through the wind). The latter maneuver is much more dangerous, but can be faster and more desirable in a combat situation. Alas, **Broadsides** does not differentiate, and the turning time in either direction is the same. Unless you are a true sailor, the omission is not one that will keep you awake at night.

Fine, so we have a ship, sailing past the enemy. What do we do? First, remember that these are ships of a prior century. No forward firing. **Broadsides** means what it says; therefore, the ideal movement is the "crossing of the T". This simply means crossing the opponent's bow or stern with your ship so that he has no opportunity for fire. Such an opportunity of fire is termed a "rake". The damage it does can be phenomenal; if the opponent finds himself in irons (i.e. without



wind movement) and you have crossed his T, the game is about over.

But when you boot up, you will notice that the computer easily blows you out of the water. How? The easy answer is that the computer cheats; the true answer is that yes, the computer does cheat. Let's face it; without that advantage, anyone could beat the challenge in five minutes. But can the computer be defeated? Yes, but remember the computer's advantage.

First of all, to hit an enemy ship, the joystick must input range; since three (3) ranges are given, the wrong answer will show the shortfall or overage of the shot. But the computer never fires at the incorrect range. Second, in the scenario of the Constitution vs. the Victory (a true mismatch historically; the American Constitution was an ungunned frigate with 44 guns -- it did not belong in the same battle line with the British Victory, a 90-gun ship-of-the-line), the computer will get off three rounds to every two you fire. Now, this writer realizes that the manual states that the Americans had the best crews (and the fewest). But the differential between a British crew and an American crew was not so marked. Chalk it up to computer advantage.

To win, pick your target (hull or rigging). For historical accuracy, remember that the French went for the rigging while the British went for the hull (and never utilized chain shot). British strategic victory cannot be attributed to this decision, but rather to the fact that the British received much more training in time at sea than the French; yet the design of French ships far surpasses British designs. Do not change primary targets in mid-stream. Also, beware of turns - every time the ship changes direction, a new range estimate must be made.

Of course, the screen shows the ships at a range of 2,400 yards. If you close, the range shifts to 600 yards. BUT IF YOU REALLY CLOSE, ...

Then you go to the Boarding Party (all invited/come as you are; hack and slash your way to glory). Although the graphics are somewhat primitive, no one ever defined a boarding party as the apex of civilized behavior. By inputting through the keyboard, you can hack, thrust, or counter-thrust. Each move has a counter (similar to the children's game of Rock/Paper/Scissors). Not only that, but while your crew is slashing away, you also have snipers in the rigging who can deal out additional casualties. Although the boarding party is fun, there is a severe problem. With two players, each must input

the keyboard (not joystick); with the rapidity of movement, one tends to keep pounding the keyboard, thereby often locking the opponent's responses out. Be aware, and if you are playing an opponent and can never get your sailors to follow orders, you have become the victim of "Opponent Ham-Handedness".

The best aspect of *Broadsides* is that anyone can learn to play. An arcade version exists, which limits the number of orders, does not allow the intricacies of boarding parties, and does double damage on hits. My six-year-old son has learned this version, and in fact, has defeated me on one occasion; but, he prefers the complexity of the boarding party because he likes to hear the ring of steel and watch the action on the deck.

Thus, *Broadsides* is the best computer simulation available covering Napoleonic naval tactics. Its errors are forgivable because its appeal is so great. The instructions, to the novice, appear intimidating at first; but slow and careful play will reveal the beauty of the game. DON'T GIVE UP THE SHIP!!!

NEXT MONTH: WAR AT SEA, PART II -- CARRIER FORCE (Midway Scenario).

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## Musical Notes

By Jay Gerber

May I have a drumroll please? ... The winner of the Musical Notes Send-In-Your-Music contest is ... Bennett Rutledge of the D.C. Group! Bennett, also the author of SEVEN FOX and NEWSPEAK, two educational games for the ATARI, submitted a nicely arranged version of John Denver's "Calypso". Congratulations to Mr. Rutledge, and a note for those of you who have music files, but not the time to send them in: you can drop them off, as Bennett did, at either the NOVATARI or DC meetings. For every disk you contribute, I will give you a blank and will the winners' disk at the end of the contest.

Last month I covered rests, key and time signatures, and sharps and flats. This month I will finish up the basics of music notation and get into the theory behind it, and provide a BASIC program for those of you who don't have a music tool like MUSIC COMPOSER, ADVANCED MUSIC SYSTEM, or MUSIC CONSTRUCTION SET, so you can follow along with us.

If you remember last issue's column, you may remember a quiz on note names and values. The answers are E-half note; D-eighth note; C-eighth note (you should recognize this last as Middle C); E-eighth note; D-eighth note; C-quarter note; C-quarter note (different octaves, remember??); A-eighth note; and the last note? The last note is a C, but if you said its value was a quarter note, you'd be only half right. The little dot to the right of the quarter note actually means something (and you thought it was just an ink smudge!)

That last note is called a dotted quarter note. (Sounds reasonable enough, right?) The dot means to hold the host note for its duration and half as long in addition. If your time signature was 4/4 (four beats in a measure with a quarter note getting one beat), which it was, then the dotted quarter note gets one-and-one-half beats or counts. This is equivalent to the added durations of a quarter note and an eighth note.

Figure 1 shows an assortment of notes and rests, comparing the values of dotted and non-dotted notes. The last two notes are separated by a measure bar (put up when all allowable counts in a measure are used up), and have a funny curve connecting them. This is called a tie. It means to play these two notes as if they were one with their durations added together. For example, the tied half and quarter A-notes are played as if a

dotted half were there, or for three counts (in 4/4: half=2 and quarter=1).

You can tie any two (or more) valued notes together. If you see a tie placed over two notes of differing frequencies, it is called a slur. This means to play the two notes one right after the other without a break in volume. Slurs are most often used in music for orchestral instruments (like the flute, clarinet, or trombone), where the slur effect is very noticeable, unlike the ATARI, where the difference is very small.

There is one more important basic element of music to cover before beginning harmonics. This is a symbol called a triplet (figure 2). A triplet is three notes of the same duration (not necessarily the same frequencies) that are connected together and have a small 3 on the top. This means to play all three notes in the time it would take to play two of them. For instance, the triplet in figure 2 is three eighth notes of different pitch, C, E, and G. If you added them up (in 4/4 time), you would end up with one and one-half counts. However, the triplet notation says to play them in the time it takes to play two, or only one beat.

The triplet is used extensively in music, especially classical. Unfortunately, two of the most used music packages for the ATARI, namely MUSIC COMPOSER and MUSIC CONSTRUCTION SET, do not support triplets. To get around this problem, you can use two dotted sixteenth notes and one regular sixteenth note. If you add up the durations of these, you will find it equals that of two eighth notes, or one count.

Now that the basics are finally covered, let's talk about harmony and melody. A melody is a series of notes that contains the main theme in a piece of music. For example, the part of a song that you sing is the melody. The guitar or instrumental accompaniment is called the harmony. A harmony is a series of notes related to the melody by musical qualities known as chords.

A chord is three or more notes played simultaneously. There are many different types of chords. Each one starts with a note called the base. You then build on the chord by adding notes to the base, so as to follow the tonal pattern set by the type of chord you want. For instance, let's start with major chords. In figure 3, I have listed a set of major chords, starting with bases of all whole steps between Middle C and B. By looking at them, you should notice a strong similarity between the placement of the two notes above the base on all the chords.



dotted sixteenth (3/8 count)  
 Thirty-second (1/8)  
 Dotted Quarter (1 1/2)  
 Eighth (1/2)  
 sixteenth (1/4)  
 quarter (1)  
 half (2)  
 quarter (1)  
 dotted half (3)  
 half (2)  
 quarter (1)  
 eighth (1/2)  
 dotted quarter (1 1/2)

Figure 1

C major      D major      E major      F major      G major  
 A major      B major      C major

Figure 2

Figure 3

Figure 4

Figure 5



The first note above the base is always exactly four half steps up, and the top note is always exactly three half steps up from the second or second from the base. (Remember to count all sharps/flats between the notes.) This is the pattern for all major non-inverted chords. An inverted chord is one which uses the same notes, but does not have the base as the bottom note of the chord.

The use of chords in music gives it a fuller sound than the melody line alone. Take, for instance, figures 4 and 5. Figure 4 is the melody line to a very popular movie theme. Using the instructions supplied in the manual that corresponds to the ATARI music program you are using, enter in figure 4 and play it. It sounds weak and empty, not at all like it did in the movies! By adding chords, as I did in Figure 5, you can make it sound better.

(Note for entering figure 5: on MUSIC COMPOSER, enter in the melody line (top staff) in phrase 1, all the top notes of the chord (bottom staff) in phrase 2, middle notes in phrase 3, and bottom notes in phrase four; for AMS, put each of the above phrases in a different voice; MUSIC CONSTRUCTION SET, use the four voice/octave option and copy figure 5 onto the screen. (The BASIC program in figure 6 will automatically play both versions, so you can hear the difference a few chords can make.)

Well, we certainly covered a lot this month. In future issues, we will discuss the use of rhythm and syncopation to further add to the richness of the melody line, learn how to add notes and chords in just the right places so as to achieve different effects, and, as always, have, I hope, a generally great time! Now don't go rushing off to another section of this magazine without some homework! Using figure 3, see if you can name all of the chords in figure 5 ... Warning -- some of them are inverted! See you next month!!!

```
5 GRAPHICS 0:POKE 709,15:POKE 710,0:PO
KE 752,1
10 REM *** MUSICAL NOTES FIGURE 6 ***
20 REM *** MELODY/HARMONY PROGRAM ***
25 ? ">)*MUSICAL NOTES MELODY/HARMONY P
ROGRAM*":FOR W=1 TO 250:NEXT W
30 DIM M(4,20),D(20),D$(38)
35 RESTORE 1000
40 FOR I=1 TO 4:FOR J=1 TO 20:READ X:M
(I,J)=X:NEXT J:NEXT I
45 FOR I=1 TO 20:READ X:D(I)=X:NEXT I
49 D$=">)*PLAYING THE MELODY LINE WITH N
O CHORDS":GOSUB 200
50 FOR I=1 TO 20
```

```
60 SOUND 0,M(1,I),10,10
70 FOR W=1 TO D(I)*2:NEXT W
80 SOUND 0,0,0,0:NEXT I
99 D$=">)*NOW FOR THE MELODY WITH HARMON
Y CHORDS":GOSUB 200
100 FOR I=1 TO 20
110 FOR J=1 TO 4
115 IF M(J,I)=-1 THEN 130
120 SOUND J-1,M(J,I),10,6
130 NEXT J
140 FOR W=1 TO D(I):NEXT W
150 SOUND 0,0,0,0:NEXT I
160 END
200 FOR I=39 TO 2 STEP -1:POSITION 1,0
:? " ":FOR W=1 TO 5:SOUND 0,W,10,5:NEX
T W:NEXT I:? D$:RETURN
1000 DATA 0,108,108,108,81,53,60,64,72
,40,53,60,64,72,40,53,60,64,60,72
1001 DATA 0,0,0,0,128,108,121,-1,-1,81
,108,121,-1,-1,81,108,121,-1,-1,144
1002 DATA 0,0,0,0,162,128,162,-1,-1,10
8,128,162,-1,-1,108,128,144,-1,-1,173
1003 DATA 0,0,0,0,217,162,193,-1,-1,12
8,162,193,-1,-1,128,162,182,-1,-1,217
1004 DATA 180,30,30,30,120,120,30,30,3
0,120,60,30,30,30,120,60,30,30,30,180
```

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CN Product Reviews:

**ACTION! PROGRAMMER'S AID DISK**, OSS Precision Software Tools, Disk \$30.

Reviewed by Jim Stevenson

It is hard to talk about the PROGRAMMER'S AID DISK (PAD) to ACTION! without talking about ACTION! itself in some detail, but that would make this review too long. So let me instead refer you to two good reviews of ACTION!, one in ANALOG #16 (Feb 84) and the other in Hi-Res Magazine (May/June 84). A third review is very interesting in the Jan/Feb 84 issue of the now-defunct Softline (a.k.a. St. Game).

I would, however, like to make some general comments myself about ACTION! and its significance. The first one is that I think ACTION! is the greatest thing to happen to Atari since its birth! To justify this statement, I have to talk first about BASIC (I'll get back to the PAD soon, I promise).

ATARI Basic. Contrary to the opinion of others (especially Consumer Reports), I believe ATARI's Basic (and the attendant editor) is the best one for beginners in the home computer market. The most important requirement for the beginner is immediate reinforcement. If he makes a mistake, he should know about it at once. Try this experiment. Type in the following program on different computers.

```
10 FOR I=1 TO 10
20 PRINT I
30 NEXT I
```

As you know, the ATARI will not let you get beyond line 10. It will print the line again with ERROR in it and backlight the A in TA. The Commodore 64, Apple IIe, and TRS-80 Color Computer say nothing until the program is RUN. Then they say "SYNTAX ERROR IN LINE 10" but do not say where in the line the error occurred.

Another feature of Basic shared by all versions is that all variables are "global," that is, wherever a program is stopped, you can print out the value of any variable in the program. This is a tremendous aid to debugging, and on mainframes any language with such a capability is said to have a "symbolic debugger."

Basic Subroutines. Now the other side of the global variable coin is that if you include ("ENTER") a favorite subroutine in a program, you have to make sure the variable names in your routine are not already

being used elsewhere in the program. The variables in the subroutine are not "local" to the routine; they are not "hidden" from the main program.

Speaking of including subroutines, probably the most annoying aspect of Basic are the ever-present line numbers. The subroutine you wish to include in your program has line numbers which must be reconciled with the numbering in the rest of the program. In fact the subroutine has to be called via a line number. ATARI Basic lets you use named GOSUBs, but then previous named-GOSUB references will not be updated automatically after a line renumbering. This type of effort in Basic has its parallel in machine language programming where an "absolute load" image of a program is created at source time rather than the usual "relocatable" image, with addresses taking the place of line numbers.

Most of the problems with Basic, then, seem to involve the use of subroutines. So why use them? Because they are at the heart of any attempt at organizing programming so that a human being (the programmer himself, as well as anyone else) has a chance of understanding what is going on. Imagine a textbook that is not divided into chapters, sections, subsections, paragraphs, etc., but rather is one long uninterrupted sequence of text. You could never get an overview of the material by reading the table of contents or easily find cross-referenced areas elsewhere in the text. Subroutines are essential for top-down, structured programming; they are the primary means of creating the "structure."

Of course, every Basic programmer is using subroutines in the sense I am discussing, and I don't mean GOSUBs. For example, GRAPHICS 8 and SETCOLOR 0,8,10 are invocations of two subroutines. When the Basic interpreter encounters these words, it branches to some code it has (and then to 0.5 code) to carry out the functions. The numbers following the subroutine names are used as inputs ("passed parameters") for the code. You have no idea what is in the code (what its variables are). That is "hidden information" and is not relevant to what you are doing. This allows you to focus on the main points and not get lost in the details.

What we would like to be able to do, then, is build programs out of subroutines we create. In fact we would like to build "libraries" of the most useful routines. We create these routines once and for all, place them in a library, and thereafter only "reference" them in our new programs via these libraries. This is hard to do in an "interpreted" language such as Basic, for the



subroutines must appear as "reserved words" to the interpreter.

**Compiled Subroutines.** Enter "compiled" languages, such as FORTRAN, COBOL, ALGOL, PASCAL, C, and ACTION!. (FORTH implements the idea of subroutines through "words" and "dictionaries, and PILOT and LOGO have similar constructs.) In fact, when Fortran appeared on the scene in the late 50's, it already supported separately compiled subroutines. The programmer would type in his "source code" text. This would be compiled into "relocatable" assembly language "object code" in which any calls to subroutines were flagged as "external references" to be resolved at "link time." In the third and last step the programmer created an "executable image" with the aid of a "linker/loader." His program was assigned a starting address and then all the subroutines referenced by the program were each linked to the main program by loading them at successive addresses, thus building an executable absolute load image. This is the ultimate in "information hiding." During the writing and compiling of programs only the name, inputs, and outputs of a subroutine need be known; the rest is taken care of at link time.

The Algol family of languages (Pascal, C, etc.) to which ACTION! belongs started out slightly differently. Pascal, for example, originally compiled to a "p-code interpreter" rather than assembly language. Also subroutines were not compiled separately but rather were explicitly included in the source text before the main program and thus compiled altogether with the main program. The "linking" idea could be achieved, however, via the "INCLUDE" function: the text file containing the subroutine source code could just be referenced in the main program text with the INCLUDE command and then brought in at compile time to be compiled with the rest of the main program. The highest level of "linking" can also occur at the time the main program source code is being typed via the word processing function of inserting whole files of text at specific locations. ACTION! supports the last two methods of linking, but not the first (separately compiled subroutines). This is not too much of an inconvenience. It means that rather than just compiling one program each time, you must always compile the included subroutines along with it.

I hope this lengthy discussion has put in perspective ACTION!'s principal feature of structured programming via preprogrammed subroutines. If nothing else, this capability makes ACTION! a "real" language. If you have progressed beyond the beginning stage with Basic and are

now becoming frustrated with the difficulty of building programs of any size, you are ready for ACTION!. Even though this language does not appear on any other micro-computer (yet) nor any mainframe, it is so close to C and Pascal (90% C-like), that its study will reward you with insight and proficiency in these languages. (I still maintain home computers are primarily for learning and entertainment, not utility.)

**Action! Subroutines.** Hey! What happened to the review of the PAD? Here it is. Now you know enough to understand the purpose of the PAD. It is a collection of subroutines that you can "link", that is, INCLUDE, in your programs to extend capabilities. If you studied ACTION! enough, you could have written these programs yourself, but it's faster and easier (for lazy types like me) to draw on the efforts of others. An extra benefit is that you can examine the way someone else used ACTION! and so get some good ideas. PAD also includes some fine demos that serve the same purpose.

Now to specifics. The PAD contains the following files of includable routines: ALLOC, CIRCLE, IO, MISC, PMG, PRINTF, REAL, and TURTLE. It also contains two games: GEM (a four-person shoot 'em up) and SNAILS (a form of BLOCKADE). Finally, the PAD has a version of the Kaleidoscope program presented by Clinton Parker (the creator of ACTION!) in the Mar 84 and Apr 84 issues of Analog. The speed of this graphics demonstration is truly impressive and inspirational.

To pass over some of the files quickly,

**CIRCLE** is just a circle drawing routine (without trig functions).

**TURTLE** contains some basic turtle graphics functions: Right(degrees), Left(degrees), Turn(degrees), Forward(pixels), and SetTurtle(x,y,degrees). These might be of interest to those coming to ACTION! from Pilot or Logo.

**IO** principally consists of the easy-to-implement disk utilities: Rename, Erase(=delete), Protect(=lock), UnProtect(=unlock), and Format. IO also contains two very useful I/O routines: BGet and BPut with arguments designating the channel # (specified by a previous Open command) and the address and length of a buffer used for receiving or sending a block of bytes. I used the machine language analog of these routines in many of the Basic programs I wrote to load or dump quickly graphics screens, character sets, and PMG images. They were the only way I could figure out to perform tape I/O with short IRGs.



Finally, MISC principally contains several C-like character manipulation routines.

**ALLOC** contains routines to allocate and free blocks of bytes. This also has its parallel in C. It has the potential of allowing overlays of data (and programs?!).

**PRINTF** contains more complete versions of the formatted-print functions given originally in the ACTION! cartridge, again similar to what is found in C. The improvements allow specification of output field sizes and right/left justification within the fields.

**Player/Missile Graphics.** I have saved for last the two most significant files (to me). The first is PMG. The routines included in this file make P/M graphics very accessible. A nice demo is included to show you how to use the various routines. Given the speed of the edit/compile/run functions in the ACTION! cartridge, it is easy to modify the demo routine to see the effect of changing the number, color, or size of players and missiles on the screen. The PMGraphics routine which sets up the P/MG allocates storage in high memory above the graphics screens and enables the proper DMA registers.

**Real Numbers.** Finally, I come to the REAL file of routines. This relates to my chief frustration with ACTION!. To explain this, I have to resort to another preamble. One of the truly simplifying aspects of (ATARI) Basic for the beginner is that there are only two types of variables: numbers and strings. They are easily distinguished by the "\$" that follows string variables. In general they are also used quite differently with string variables representing text. Of course the more experienced Basic programmer will represent characters using the ATASCII byte code and will store large arrays of numerical (byte) data as strings.

ACTION! introduces more precision in these matters by distinguishing among bytes, cardinals, characters, and integers. A string is given as an array of characters. Having a cardinal type (= whole number from 0 to 65535) is great for addressing memory locations. An integer represents "signed" whole numbers from -32768 to 32767. What about numbers such as 4.5 or 2.7E-6? Ah, there's the rub. These are variously called "real" or "floating-point" numbers and they were included automatically in Basic depending on the context. For example if you divided two integers such as 5 and 4 (5/4), you got 1.25 in Basic. ACTION! will give 1. It turns out to be a non-trivial matter to handle

operations on real numbers. Most software implementations are relatively slow; larger machines try to have "firmware" or hardware floating point routines. Many implementations of C on micros are subsets of the language and are integer only. Several Basic compilers claiming great speed are also integer only. So it is not so surprising that this d are integer only. Several Basic compilers claiming great speed are also integer only. So it is not so surprising that this implementation of ACTION! on a cartridge does not include real numbers. Moreover, most graphics, music, and gaming programming, as well as text processing, can be done using only integers. However, simulations and scientific applications, which are among my primary interests, require real numbers.

What to do? Include the PAD REAL file in your routines! But alas, that is not all there is to it. There is the usual fussiness associated with highly "typed" languages. For example, integers and reals cannot be added together until one type is converted to the other using the IntToReal or RealToInt functions provided in the REAL file. But a far, far more annoying problem is that you cannot easily combine real operations. Consider the addition of three reals x, y, z to yield the real w. All you have to do is write

$$w = x + y + z,$$

right? Wrong! The "+" symbol is interpreted by the compiler, and the cartridge version knows nothing about adding reals. You have to make successive calls to the routine RealAdd. The correct way is as follows.

```
INCLUDE "D:REAL.ACT"
REAL temp,x,y,z,w
RealAdd(x,y,temp)
RealAdd(temp,z,w)
```

This is very awkward.

For scientific programming it is also necessary to have available several basic functions. The REAL file contains the exponential and "inverse" exponential type functions of Exp, Exp10, Power, Ln, and Log10, but no trigonometric functions!. Why is this? The PAD REAL file implements the real functions by accessing code in the ATARI operating system (OS). The trig functions are not included in the OS but rather are in the floating point package in the Basic cartridge. I take this as a challenge to create my own trig function files, which are of course easy to add to the REAL file.



To wrap up the discussion of the REAL file, I should mention that the I/O routines are augmented by ones able to handle reals, namely, PrintR, PrintRD, PrintRE, PrintRDE, InputR, and InputRD. Finally, there are two string conversion routines: StrR and ValR.

Let me end this review of the PAD by saying that I would not like my remarks about the REAL file to cast a pall over ACTION!'s capabilities. As I mentioned, many implementations of languages on micros do not include reals. Everything has its trade-offs. I think the ability to create ";"-less structured programs and to build permanent libraries of subroutines that can easily be included in programs is tremendously powerful and exhilarating. Unfortunately, such power just makes one hungry for more!

\* \* \* \* \*

### CN Product Reviews

**XBASIC**, By SUPERware, Tape or Disk, \$29.95

Reviewed by Jay Gerber

XBASIC, authored by George Schenk, and marketed by SUPERware, is a 2K machine language enhancement to ATARI BASIC that includes 30 routines accessed by the USR command. It has very fast subroutines for speeding up such slow features of ATARI BASIC as player/missile graphics, disk I/O, sound generation, timing, and other very useful applications.

To give you an idea of how easy it is to use XBASIC, let's look at one of the available commands -- which all use the same general format:

**X = USR(SDIM,6,20000,5,7,128)**

This command dimensions a two-dimensional string array, using array #6 (out of 7), with data starting at location 20000, with 5x7 elements, and a maximum character length of 128 bytes.

Using XBASIC is very simple. With ATARI BASIC in your machine, you load the XBASIC program, which somehow mysteriously contains the machine-language code, into memory. You then write your BASIC program putting in the USR functions for any of the routines you want, and then execute a special USR function which will save XBASIC machine code along with your program code on

disk. You load your finished program as you would do any other ATARI BASIC program and viola! You have a fast, efficient BASIC program.

Although using XBASIC is simple, the functions it performs are complex and practical. For arrays, XBASIC has commands that set up two-dimensional string arrays and transfer characters between ATARI strings and XBASIC strings. It also lets you define and use three-dimensional numerical arrays.

XBASIC has an extensive array of memory moving functions. You can move a block of memory from disk to screen, or vice-versa. You can move blocks of RAM from one location to another. You can move screen memory from one location to another lightning fast, for page flipping. And speaking of fast, XBASIC can do any of these functions in as little as 1 to 5 seconds, depending on how much memory you are moving (and disk drive speed).

XBASIC has two useful timing commands: Time Delay and Set Timer. Time Delay will wait a specified number of 1/60th second time units, and then return to BASIC. Set Timer sets a countdown timer of a specified number of 1/60th second units, and returns to BASIC. You then check it with a peek to the timer location (536-544 decimal).

Player/Missile graphics is one of the strong points in the package. There are seven incredibly useful routines such as a player move, missile move, player size, missile size, player/missile color, and an extensive collision detection routine. The one function I left out is the most time-saving and thoughtful one: player set up. This little command will set up all player/missiles for single resolution. Ordinarily in BASIC, this would take several pokes and at least five program lines.

XBASIC also has a command that will play a series of sounds in perfect time durations of 1/60th second, and a command that will list the disk directory directly on the screen without having to call DOS.

All-in-all, XBASIC is a superb package of routines that makes life much easier for the BASIC programmer.

=====

How about some short programs? Do you have any 1-liners? 2-liners? 3-liners? etc. Send them in to Current Notes and share them with the rest of us.



CN Product Reviews**NECROMANCER. By  
SYNAPSE, Disk \$34.95**

Reviewed by Mike Benson

Your in a world of evil and darkness; everybody hides in fear of him ... that is except for you. You are Illuminar, the defender of the good and truth of the human race. You were put here for a pupose and that pupose is to defeat him. His name? THE NECROMANCER... the evil wizard that rules the world. You have one chance of stopping him. And that is to use the powers that nature gave you to gather an army of trees and smash the spider larva and then, defeat NECROMANCER himself.

That was the hoopla, now here is the technical gibberish...

There are three stages of the game. In act one your mission is to gather an army of trees. To do this you must move your wisp around the screen and plant your trees. You only get ten seeds to start out with. After that you must hit a creature that hops about and is called the Eyepod. This will give you a random number of seeds. After a tree is planted you must protect it from the halflings and the forest spider who poisons them. This act ends when you run out of energy.

Act two. You must maneuver your walking trees over the spider larva and plant them. They will grow and smash the larva. You must avoid the hands of fate which will grab anything they touch. You must also kill the spiders that hatch. After you get through five levels of this, you are ready for the final act.

Act three. In this act you must run your little man over gravestones and destroy them while fighting the mother spider and all the spiders that hatched from the larvas you didn't destroy. You win when you destroy all the headstones on which the NECROMANCER reincarnates himself.

To sum it up. I found that I liked this game a lot ... that is, at first. I then lost my enthusiasm for it because I got tired of having to go through levels and levels just to be destroyed in act three almost immediately. If you have some patience ... any at all, you will like this game. But for me, I will stick to POLE POSITION and old games like that.

CN Product Review**I Speak BASIC To My  
ATARI, By Aubrey B. Jones,  
Jr., HAYDEN BOOK CO., 1983, \$9.75**

Reviewed by Marty Vallery

When Joe (the editor) asked me to review a new book for him, I readily accepted, particularly when I discovered I could keep the book for my own library. I am a teacher with the Fairfax County Adult Education Center teaching BASIC I and II to adults. This past year I have taught 4th, 5th, and 6th graders BASIC programming in an after-school enrichment program. I am tutoring BASIC programming in my home this summer.

Anyone who has taught or is planning to teach BASIC programming using ATARI computers knows the problems associated with trying to find or create suitable supplemental materials for the classroom presentation. This 229-page manual is full of information organized in a very simple, no flowers, format. Each chapter has written objectives, several pages of explanation and examples of the particular subject being addressed. A summary and sample practices are included at the end of each chapter. Each chapter becomes a lesson plan with the potential of becoming a successful mini-lesson taught as an introduction to a chosen topic. The chapters are presented in a concise and logical way to allow the student to build upon what he has previously learned. The large print and boldface type of the drawings, diagrams, and charts make them very suitable for use in an opaque projector. The book is suitable as a student notebook and with the publisher's permission can easily be used to make transparencies for classroom use.

Chapter 1 introduces the hardware. Chapter 2 addresses the software, special function keys unique to the ATARI, and ATARI power-up rules. By the third chapter, students are writing their first computer program. Programming tools using mathematical operators and print zones are introduced in Chapter 4 with scientific notation following in Chapter 5 which also includes a review and feedback to check for understanding.

Chapter 6 explains the purpose and use of the six relational operators, the key words IF/THEN, GOTO, and how to use continuing loops. INPUT statements, the purpose and use of a trailing semicolon, and the difference between numeric and string variables are explained



in Chapter 7. Chapter 8 covers the use of calculator mode and sizing memory.

The student is introduced to the cassette and disk drive as input/output devices in Chapter 9. The FOR/NEXT (and STEP) statements appear in Chapter 10 with a brief discussion of flow-charting. Use of the READ/DATA and RESTORE commands are explained in Chapter 11.

The topic of ATARI video display graphics is introduced only lightly in Chapter 12 before turning to a discussion of the DIM statement and one- or two-dimensional numeric arrays in Chapter 13. The use of simple functions such as INT(), ABS(), and RND() is introduced in Chapter 14. The final chapter covers some of the more complex BASIC constructs (ON/GOTO, GOSUB/RETURN, ON/GOSUB). Some additional practice programs are included at the end of the book.

The format and content are appropriate for any introductory BASIC class using ATARI computers. It could also be useful in a self-study course with an ATARI computer. Because of the nature of its slide/show format, I Speak BASIC to my ATARI, does not stand alone, but it does become a terrific supplement to a good text.

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## Polar Coordinates

By Carl Stebner

Many students are familiar with the Cartesian, or rectangular, coordinate system. The Cartesian coordinate system is based on two perpendicular lines drawn in a plane. The horizontal line is usually called the X-axis, and the vertical line the Y-axis. The lines intersect at point 0, called the origin. By assigning numerical values to arbitrary lengths along both lines, any point in the plane can be defined by a set of numbers (X,Y). Lines, or curves in the plane, can, therefore, be defined by an algebraic formula. For example, a straight line can be described as  $Y=AX+B$ , where A and B are numerical constants.

However, how many of us are familiar with the Polar coordinate system? In the Polar coordinate system, we attempt to define any point in a plane by a set of numbers, but in a different fashion. A horizontal line, called the polar axis, is drawn to the right of a point in the plane, an origin point, or pole. Rotate the line about the pole. The polar axis sweeps through varying angles, usually designated by the greek letter theta. With the original horizontal line designated zero degrees, counter-clockwise rotation to the vertical would be 90 degrees, to the left of the pole 180 degrees, and so on, back to the original line of 360 degrees. Therefore, by knowing how far the line needs to be rotated from zero degrees (TH) and how far along the line from the pole any point on the plane is (an arbitrary distance, R), any point (P) on the plane can be located, P(R,TH).

Polar coordinate graph paper can be obtained commercially and looks like a series of radiating lines, like the spokes on a wheel, and a series of concentric circles around a central point or pole. Imagine looking down on the North Pole on a globe, the circles being the latitude lines, and the radius lines the longitude lines.

Similarly, equations can be written in polar form. Usually, these equations contain trigonometric terms as one of the coordinates is defined by an angle. Also, equations can be converted from one coordinate system to the other. For example, the equation of a straight line in Cartesian coordinate  $Y=AX+B$ , where A and B are constants, could be written  $R*\sin(TH)=A*R*\cos(TH)+B$ . Other interesting geometric curves can be drawn from

polar equations. The following programs plot several different polar equations.

In order to plot the equation with your graphics, it is easier to convert the polar coordinates to rectangular coordinates. Some of these curves have special names, as you will see in the REM statements in each program. Since sine and cosine functions are less than one, a multiplier or constant needs to be added in order to expand the plot on the video screen in order to see it better. The formulas plotted by the two programs are:

1) the Spiral of Archimedes,  $R=A*TH$

2) the Three-Leaved Rose,  $R=A*\sin(3*TH)$

where R is the distance along the polar axis, TH the angle theta, and A any constant.

Try writing your own program for the following formulas:

1) the Lemniscate of Bernoulli,  $R^2=(A^2)*\cos(2*TH)$

2) the Four-Leaved Rose,  $R=A*\cos(2*TH)$

3) a circle,  $R=A*\cos(TH)$ , and

4) the hyperbolic spiral,  $R=A/(TH)$

```
5 REM SPIRAL OF ARCHIMEDES
10 GRAPHICS 6:COLOR 1:SETCOLOR 0,8,8
20 FOR TH=0 TO 360:R=TH*0.5
30 A=TH*(3.1416/180)
40 X=TH*COS(A)*10:Y=A*SIN(A)*10
50 X=80+X:Y=25-Y
60 PRINT TH,R:PLOT X,Y
70 NEXT TH
80 END
```

\* \* \* \*

```
5 REM THREE LEAVED ROSE
10 GRAPHICS 7:COLOR 1:SETCOLOR 0,4,4
20 PLOT 0,35:DRAWTO 158,35
30 PLOT 76,0:DRAWTO 76,76
40 FOR TH=0 TO 360:R=SIN(3*TH)
50 X=R*COS(TH)*40:Y=R*SIN(TH)*40
60 X=X+76:Y=35-Y:PRINT TH,R
70 COLOR 2:SETCOLOR 2,8,4:PLOT X,Y
80 NEXT TH
90 END
```

[Reprinted from M.A.C.E. Journal, May, 1984.]



## DOS COMPARISON

By Stan Stubeck

**ATARI DOS 3.0.** ATARI introduced DOS 3.0 as the successor to DOS 2.0S. Like its predecessor, DOS 3.0 is menu driven with each of the same functions. The ability to handle ATARI's new "dual density" mode used in the 1050 disk drives is the greatest modification. Dual density implies one and half density as opposed to the classic double density.

DOS 3.0 disk formatting and file storage is different than that of DOS 2.0S, yet DOS 3.0 will operate in a single density mode and is able to read a DOS 2.0 file. Since DOS 3.0 has only recently reached the market, its long-term reliability cannot be judged.

The main advantage to DOS 3.0 is the increased disk storage it offers owners of a 1050 disk drive. Other users will find DOS 2.0S easier to use.

**DOS X/L.** OSS introduced DOS X/L as a successor to OS/A+. This operating system supports both single and double density operation. It has all the features of OS/A+ and additionally provides a menu for the most often used commands. Like OS/A+, DOS X/L requires that a system disk be present for the issuance of a command.

DOS X/L has a file structure that is fully compatible with that of ATARI DOS 2.0S. The required presence of a system disk, however, makes it unwieldy for single drive systems. Its only other failing is that it does not support double sided disk drives even though the documentation claims otherwise.

DOS X/L is the only DOS for advanced users with multi-drive systems.

**MYDOS.** MYDOS from Wordmark Systems is the most flexible and easy to use of the newer disk operating systems. Unfortunately, it has developed a bad reputation because of the inadequate testing procedures used in the early releases. MYDOS Version 3.013 is the current release. It works well in spite of its extreme sensitivity to changes in drive speed and its apparent random failure to format a perfectly good disk.

MYDOS is entirely menu driven and uses the same commands as ATARI DOS 2.0S, with some additions to the menu. All unnecessary key strokes have been eliminated, including the need to place a D: in front of the drive number. MYDOS supports single and double density 5 1/4"

and 8" disk drives, and it allows double sided 5 1/4" operation. The file structure used by MYDOS is compatible with DOS 2.0S, however, care must be taken in transferring files since MYDOS uses a different Directory/VTOC structure.

Special features of MYDOS include sector copying, subfile directories (thus allowing up to 4096 files on a disk), support of mixed disk drive types, automatic formatting with the J command, and extra wildcards to allow for functions such as copying all files other than those with an SYS extender.

**Smart Dos.** Smart DOS from the Programmer's Institute is one of the newest disk operating systems on the market. It is distributed with both the RANA and the ASTRA disk drives or may be purchased alone for about \$49.95. SMART DOS is menu driven, completely compatible with ATARI DOS 2.0S, and supports both single and double density operation. The SMART DOS menu includes a display of both drive and system status.

Special features of the system include disk speed checking, sector copying, and multiple AUTORUN.SYS files. The user may choose to have a memory resident DUP.SYS, enabling instant movement between BASIC and DOS.

SMART DOS uses standard wild cards. Screen colour changing is used to flag file delete operations. The extra keystrokes used by ATARI DOS 2.0S are eliminated.

SMART DOS is an excellent operating system for multi-density users. Its only flaws are that it does not permit one drive copying of single files and that the commands use different entry letters than those of ATARI DOS 2.0S.

**TOP DOS.** TOPDOS by Richard Bennett is another new multi-density operating system. It is marketed under the name of ECLIPSE SOFTWARE. Some of the unusual features of TOPDOS include the power to undelete a file, the formatted directory display, the full screen scrolling and the direct memory access for machine language debugging.

TOPDOS is menu driven, but unlike other varieties of DOS, the menu is only re-displayed on request. While TOPDOS can read ATARI 2.0S files, the reverse is not true, making TOPDOS an inadequate DOS for users who have been using DOS 2.0S for years.

[Reprinted from Computer Squad NEWS, June & July, 1984.]



# Lights, Camera, ACTION!

By Dale Lutz

Recently I jumped aboard the ACTION! bandwagon and purchased the language. I haven't had much time to do any large program development with it, but already I have fallen in love with it. With the Programmer's Aid disk [see review on p.17, ed.] and the runtime package available, I can't think of anything to improve. This language is really where it's at -- if you have grown out of BASIC, get ACTION!.

To give you a brief sampling of ACTION!, I have submitted two simple programs. The first converts Tiny Text files to Text Wizard or Atari Writer format. It illustrates the use of the OPEN, PUT and GET routines in ACTION!. Note the smooth flow of the ACTION! code in this one. When typing it in, note that in PROC all the things which look like ones are actually Ls. (Experienced ACTION! programmers will probably laugh at this effort of mine -- when I wrote it I didn't know the shortcuts of the language, and it still runs fast anyway, so I didn't change the code). All the program does is take out the carriage returns Tiny Text puts in, and change the Tiny Text Control-S and Control-E to returns. The dots still have to be removed manually, and any format controls changed appropriately.

The second program lists ACTION! source files to single sheets, and numbers the pages. I used it to generate listings for inclusion in a hand-in school physics project -- I couldn't find any other way to list the source files to single sheets. In fact, this program could be used to dump any pre-formatted text file to printer.

In conclusion, I plan to use ACTION! as my sole language from now on, except for very small "throw away" programs where BASIC is better. But for anything very large, swing into ACTION!.

```
; **** LISTER ****
; BY DALE LUTZ
; This program will list an ACTION!
; source file to single sheets
; on an Epson Printer
```

```
BYTE a,line,page,b
BYTE ARRAY str(240),title(40)
```

```
PROC inputname()
```

```
Graphics(0)
PrintE("Please enter the filename of the ")
PrintE("ACTION! source file (in the form ")
PrintE("D:filename.ext)")
PrintE(" ") PrintE(" -->")
InputS(str) PrintE(" ")
PrintE("Insert SOURCE disk, press RETURN")
a=InputB() Open(2,str,4,0)
RETURN

PROC wait_for_sheet()
PrintE(" ") PrintE("Insert SHEET, press RETURN")
PrintE(" -->") a=InputB()
RETURN

PROC margin()
For b=1 to 8
DO PutD(1,32) OD
RETURN

PROC center (BYTE ARRAY cen)
page==+1 margin() PutD(1,27)
PrintD(1,"-a") ; set underline on
PrintD(1,cen) PrintD(1," Page ")
PrintD(1,page) PutD(1,27)
PrintD(1,"--") ; set underline off
PutD(1,0) PrintDE(1," ")
PrintDE(1," ")
RETURN

PROC print_sheet()
center(title)
FOR a=1 to 51
DO InputSD(2,str) margin()
PrintDE(1,str) OD
RETURN

PROC inputtitle()
PrintE("Please enter the title to be")
PrintE("printed on the top of each page ")
PrintE(" ") PrintE(" -->")
InputS(title)
RETURN

PROC main()
DO page=0 inputname() inputtitle()
PrintE(" ") PrintE("Ready printer, press RETURN")
Print(" -->") a=InputB() PrintE(" ")
Close(1) Open(1,"P:",0,0) PutD(1,27)
PrintD(1,"B") ; shut off paper out
WHILE EOF(2)=0
DO wait_for_sheet() print_sheet() OD
PrintE(" ")
Print("Press RETURN for another listing.")
a=InputB() PrintE(" ")
```



```

OD
RETURN

;This program converts a TinyText
;file to Text Wizard format
; -- some global variables

BYTE a,b,c
BYTE ARRAY str(130)
CARD mem,count,1

PROC linein()
  InputSD(1,str)
RETURN

PROC out()
  FOR a=1 to str(0)
    DO Poke(mem+count,str(a)) count==+1 OD
RETURN

PROC allout()
  mem=$4000
  FOR l=mem to mem+count
    DO a=Peek(l) PutD(2,a) OD
RETURN

PROC inputname()
  PrintE("Please enter the filename of the ")
  PrintE("original TinyText file (in the form ")
  PrintE("D:filename.ext)")
  PrintE(" ") Print(" -->") InputS(str)
  PrintE(" ")
  PrintE("Insert SOURCE disk, press RETURN")
  a=InputB() Close(1) Open(1,str,4,0)
RETURN

PROC outputname()
  PrintE("Please enter the filename under which")
  PrintE("to save the converted file (it will ")
  PrintE("be in Text Wizard format).")
  PrintE(" ") Print(" -->")
  InputS(str) PrintE(" ")
  PrintE("Insert Destination disk, press RETURN")
  a=InputB() Close(2) Open(2,str,8,0)
RETURN

;codeconvert changes TinyText end of line
;characters to RETURNS

PROC codeconvert()
  FOR a=1 to str(0)
    DO IF str(a)=19 OR str(a)=5 THEN str(a)=155 FI OD
RETURN

```

```

PROC converter()
  CARD num,loop
  DO count=0 mem=$4000
    Graphics(0)
    PrintE("TinyText to TextWizard File Converter")
    PrintE(" ")
    PrintE("      Written by Dale Lutz")
    PrintE(" ")
    PrintE("      In ACTION!") PrintE(" ")
    inputname() num=InputCD(1)
    FOR loop=1 TO num+1
      DO linein() codeconvert() out() OD
    outputname() allout()
    Close(1) Close(2) PrintE(" ")
    PrintE("Conversion Complete!")
    PrintE(" ")
    PrintE("Hit RETURN to do another conversion")
    a=InputB()
  OD
RETURN

```

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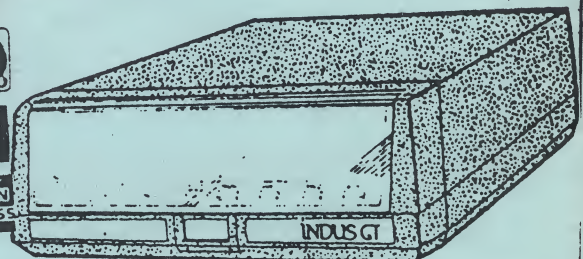
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